Exploring Switching Intentions Among Generation Z Smartphone Users: A Push-Pull-Mooring Framework Analysis of Factors Across Smartphone Segments

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Abstract

This research uses the Push-Pull-Mooring Framework to explore the factors influencing smartphone users' switching intentions, whether between levels of smartphone types within the same brand or across different brands. Using online survey data from 141 Generation Z Smartphone users in Jakarta, respondents have been divided into three segments according to the smartphone price. These are Entry-Level, Mid-Range, and High-End. This study uses the data triangulation research method by utilizing WrapPLS 7.0 and Nvivo 12 software. This study found that in every level of the smartphone, the Entry-level, Mid-range, and High-End, the most significant factor for switching intention is the Push factor. Apart from that, the quantitative analysis demonstrates that six other factors cause Smartphone users to change smartphone brands: convenience, features, durability, needs, user experience, and the price of smartphones.

Keywords: Switching intentions, Push-Pull-Mooring Factors, Smartphones, Generation Z.

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1. Introduction

The study of consumer behavior has always been an immensely intriguing topic for research and discussion. A wide array of perspectives and methods are extensively explored and developed in this field. One of the consumer analyses to be discussed in this study revolves around smartphone consumers. This analysis is necessary due to rapid changes in smartphone technology, the shifted consumer needs after the pandemic, and the continuous emergence of new digital businesses (United Nations Conference on Trade and Development, 2021).

With a population of approximately 277.7 million people in 2023 (Worldometer, 2023), Indonesia has become a potential market for various industries, including the smartphone industry. According to the Central Statistics Agency (BPS, 2023) report, around 65.87% of Indonesians own and use smartphones in 2021, which is rapidly growing. This smartphone user growth has made Indonesia the fourth largest country in the world in terms of smartphone usage, with approximately 192.15 million smartphone users (Sarnita, 2022).

Based on data from BPS in 2022, Indonesia's highest number of mobile phone users is concentrated in Daerah Khusus Ibukota Jakarta (DKI Jakarta), a Special Capital Region of Jakarta. As of June 2022, DKI has a total population of approximately 11,249,585. The percentage of smartphone users in DKI Jakarta is 82.27%, translating to approximately 9 million smartphone users in the region (BPS, 2022).

Interestingly, generation Z (aged 11 to 26 years) comprised the largest generational cohort, accounting for 27.94% of the total population in DKI Jakarta. This significant representation of Generation Z makes them the appropriate research subject for this study (Jayani, 2021).

As a generation born and raised in the digital era, Generation Z is recognized as digital natives who are technologically sophisticated. They exhibit unique characteristics in their behavior and preferences in their lifestyle, which distinguish them from previous generations (Goryunova & Jenkins, 2023). For example, technology-savvy among Generation Z enables them to make informed purchasing decisions by reading real-life user reviews from various social media platforms.

In addition, generation Z's immersion in technology and the internet from an early age has shaped their consumer habits and expectations, particularly when it comes to smartphone usage and engagement with digital products and services (Dimock, 2019). For example, they value personalized products and are drawn to brands that share their views on specific topics. Thus, understanding the consumer behavior of Generation Z is vital for businesses aiming to capture this sizable and influential demographic as potential customers.

These statistics underscore the significant impact of smartphone usage in Indonesia, particularly in densely populated regions such as DKI Jakarta and its demanding and dynamic Generation Z. As the demand for smartphones with various clusters of technology and their features continues to grow, it becomes crucial for businesses, policymakers, and researchers to understand the factors that influence consumer choices in this dynamic market.

The paper aims to shed light on the changing dynamics of smartphone consumers in Indonesia post-pandemic and how the proliferation of new smartphone variants affects their preferences and needs. By analyzing this market, we hope to contribute valuable information that can effectively facilitate the development of customized strategies to meet Indonesian smartphone consumers' demands.

2. Literature Review

Ye et al. (2022) explored three variables or factors influencing switch intention using the Push-Pull-Mooring (PPM) framework. The PPM framework is a theoretical model for understanding consumer switching behavior (Bansal et al., 2005). The framework represents a migration theory where negative factors push individuals away from something while positive factors pull individuals towards something. These Push-Pull factors interact with mooring factors, which are personal and social factors influencing individuals to stay or migrate elsewhere (Moon, 1995). Over time, the PPM theory has been recognized to explain switching behaviors, extending beyond physical location migration to other transitions like brand switching (Liao et al., 2021) and has been frequently used in brand switching research (e.g. Ghasrodashti, 2018; Chia, 2018; Yoon & Kim, 2023).

This paper used the PPM framework to examine the reasons for switching or transitioning from one variable to another, specifically focusing on the "Brand Smartphone." The three factors considered are as follows: Push Factor: Refers to negative factors that drive someone to leave their current smartphone brand and switch to a new or different brand. Pull Factor: Represents positive factors that attract someone to switch to another brand, highlighting the advantages of the competitor's product. Mooring Factor: This factor encompasses external positive or negative elements, such as personal circumstances, environmental factors, financial availability, and other alternative variables that may hinder or facilitate the switch.

According to Bansal et al. (2005), switching intention is the likelihood or certainty of a customer switching from one product or service provider to a new one. Burnham et al. (2007) defined switching intention as "the emergence of a consumer's desire to move from a previous product to another." The earlier study by Grover (1992) asserted that brand or product switching is also influenced by current and previous conditions whose effects are only being felt now. Therefore, knowing the product characteristics in each segment is important because of this situation. Understanding the previous situation forms the basis for the next version of the product development strategy in the future. In their research, al-Kwifi et al. (2014) emphasize brand switching in technology-based products, especially if there are differences in features, which consumers can feel. Consumers will look for features that are better and easier to work with, and that are adapted to their needs.

Haridasasan et al. (2021) further added that today's online commerce influences people to see and compare other products. This convenience is coupled with lower product prices because they are traded online. As a result of the ease of obtaining information and low switching costs, it further encourages a Pull effect, which causes brand or product switching.

In this study, an evaluation of brand switching intention was carried out and also looked at product switching intention in different price or quality categories. This kind of analysis is rarely done, even though in a retail strategy, understanding that people will buy products that are more expensive and more suitable to their needs is a phenomenon as well as an essential key strategy to increase retail revenue.

3. Research Methods

This study used the mixed method with the triangulation analysis approach. The researchers chose the Push-Pull-Mooring (PPM) research model to classify the factors influencing the shifting brand preferences and smartphone purchasing behavior in Indonesia. Alongside the PPM framework, researchers also observed the segmentation within the smartphone market in Indonesia and divided it into distinct "classes." Each smartphone brand offers products within these classes to cater to various consumer segments across Indonesia.

The segmentation of smartphone products in Indonesia is classified into three categories:
-   Entry-level: Smartphones possess standard specifications that meet the daily needs of users. The price range for smartphones in this category typically falls between Rp. 800,000 to Rp. 2,499,000 (approximately 50 US Dollars to160 US Dollars).
-   Mid-range: This category has a significant market segment in Indonesia, mainly because its smartphones are contemporary and affordable for the middle-income group. The smartphones usually come equipped with 2-3 high-quality front and rear-facing cameras, with price ranges from Rp. 2,500,000 to Rp. 5,999,999 (approximately 160 US Dollars to 400 US Dollars).
-   High-end: These smartphones are known for their relatively high prices, elegant designs, and above-average specifications, with Random Access Memory above 6GB. These smartphones typically cost above Rp.6,000,000 (approximately 400 US Dollars).

The authors employed the triangulation technique to analyze the data, combining quantitative and qualitative data. For the quantitative data analysis, the Structural Equation Model based on Partial Least Squares (SEM-PLS) was used with the assistance of WrapPLS version 7.0 software.

The author used Nvivo software to produce word frequency and project maps for qualitative data analysis. This software aids in systematically organizing and analyzing qualitative data, allowing the researcher to identify patterns, themes, and relationships within the data.

By adopting the PPM research model, combining it with market segmentation analysis, and employing appropriate quantitative and qualitative data analysis techniques, the researchers aim to understand the factors influencing smartphone brand preferences and purchasing behavior in Indonesia. This approach allows for a holistic examination of the various forces in the smartphone market, ultimately providing valuable insights for smartphone manufacturers and marketers seeking to better target and engage with specific consumer segments.

4. Results and Discussions

As presented in Table 1, the majority of respondents in this study are between the ages of 19 and 22, comprising 72% of the 102 respondents. The respondents were aged 23 to 26 years, representing 18% of the 25 respondents. Then, respondents aged 15 to 18 make up 9%, with 13 respondents, and lastly, there is a respondent aged 11 to 14 years, making up 1%.

Regarding their location, the majority of respondents, 21%, are from West Jakarta, followed closely by 18% from North Jakarta. The rest of the respondents are distributed across other areas in DKI Jakarta, including South Jakarta, Tangerang, Bekasi, East Jakarta, Central Jakarta, Bogor, and Depok.

Regarding the occupation of the respondents, the respondents in this study were dominated by students, comprising 72% with 102 respondents. Following this, 8% (11 respondents) work in administrative/professional fields. 7% (10 respondents) are students, and 5% (6 respondents) are entrepreneurs. Furthermore, 3% (3 respondents) are in social networks and marketing, and 2% (3 respondents) are in arts/design. There are 1% (2 respondents) each in the fields of freelancing, construction, and mobile engineering.

The demographics of the respondents are summarized in Table 1.

Table 1: Demographics of the respondents

Demographics	Frequency	Percentage
Age		
11-14 years old	1	0.7
15-18 years old	13	9.2
19-22 years old	102	72.3
23-26 years old	25	17.7
Location		
West Jarkata	30	21.3
North Jakarta	26	18.4
South Jakarta	19	13.5
Tangerang	17	12.1
Bekasi	17	12.1
East Jakarta	12	8.5
Central Jakarta	10	7.1
Bogor	5	3.5
Depok	5	3.5
Occupation		
College Students	102	72.3
Administrative / professional	11	7.8
High School Students	10	7.1
Entrepreneurs	7	5.0
Social networks and Marketing	5	3.5
Arts and Design	3	2.1
Freelance	1	0.7
Construction	1	0.7
Mobile engineering	1	0.7

Based on the general segmentation applied in the smartphone industry, this research categorizes respondents into three segments based on the price range of their smartphones, as presented in Table 2 below.

Table 2: Respondents Segment based on the range of Smartphone Price

Respondents Segment	Frequency	Percentage
Entry Level		
Rp800,000 to Rp1,250,000	10	7.1
Rp1,250,000 to Rp2,499,999	22	15.6
Mid Range		
Rp2,500,000 to Rp3,749,999	30	21.3
Rp3,750,000 and Rp5,999,999	28	19.9
High-End		
Rp6,000,000 to Rp9,999,999	21	14.9
Above Rp10,000,000	30	21.3

As shown in Table 2, the entry-level segment consists of 32 respondents. In particular, 7% of the respondents own smartphones with a price range of Rp800,000 to Rp1,250,000, while 16% of the respondents own smartphones with a price range of Rp1,250,000 to Rp2,499,999.

There are 58 respondents in the mid-range segment. 21% own smartphones within the price range of Rp2,500,000 to Rp3,749,999, while 20% possess smartphones priced between Rp3,750,000 and Rp5,999,999.

More than half of the respondents are from the High-End segment (51 respondents). Within the respondents in this segment, 15% possess smartphones with a price range of Rp6,000,000 to Rp9,999,999, while 21% own smartphones priced above Rp10,000,000.
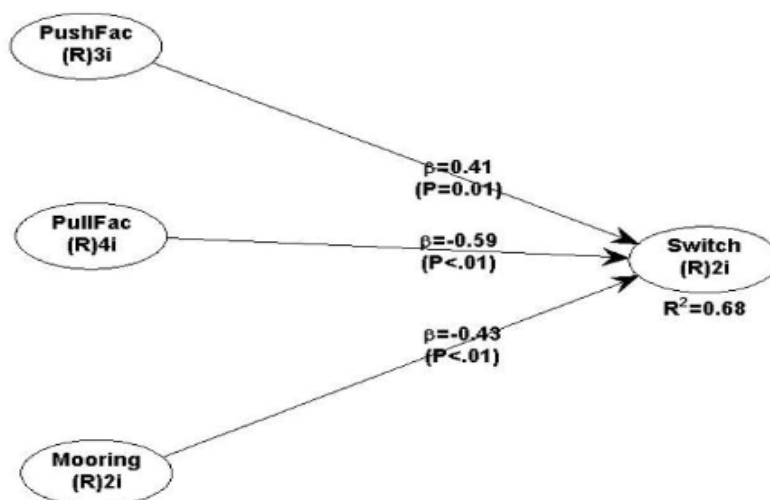
Entry Level Segment

Figure 1. Entry Level PPM Result

Based on the output of Wrap PLS, the R^2 value of 0.681 indicates that the independent variables can explain approximately 68.1% of the variance in the dependent variable. In comparison, the remaining 31.9% is attributed to other factors.

Based on the results of the Wrap PLS, it can be concluded:

- The Push Factor has a significant influence with a significance value of 0.41 and a positive correlation. When the Push Factor increases by 1 point, the switching intention also increases by 0.41 points.
- The Pull Factor has a significant influence with a significance value of <0.001 and a negative correlation. When the Pull Factor increases by 1 point, the switching intention decreases by 0.59 points.
- The Mooring Factor has a significant influence with a significance value of 0.48 and a negative correlation. When the Mooring Factor increases by 1 point, the switching intention decreases by 0.48 points.

Based on the brand switching question and quantitative analysis above, the following conclusions can be drawn regarding the segment of respondents in the entry-level segment:

1. The smartphone brand most widely used by respondents is Xiaomi. However, if given the freedom to choose in the entry-level segment, 28% of respondents would prefer or intend to use Apple, while 16% would not switch from their current smartphones. The rest would like to upgrade or enhance their smartphones to a higher specification, such as those with higher random-access memory.
2. In the entry-level segment, when the push factor increases, consumers tend to switch to other brands (switching occurs).
3. On the other hand, when the Pull factor and Mooring factor increase, switching intention does not occur among respondents in this segment. The main reason is that the value and the price are reaching the optimum level. The manufacturers face challenges in adding new features or consumers becoming saturated with similar specifications. The same holds for the Mooring factor, as nothing special distinguishes one brand from another, making it difficult to recommend one over the other, as they all appear similar.
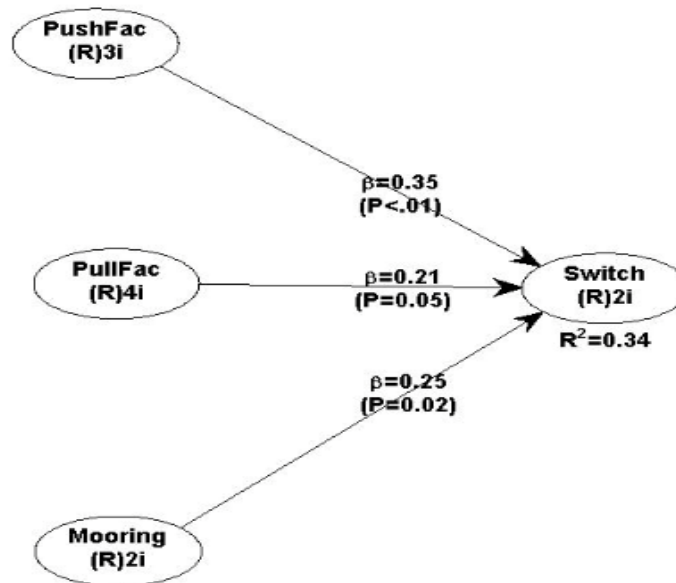
Mid-Range Segment

Figure 2. Mid Range Segment PPM Result

Based on the output of Wrap PLS, the R^2 value of 0.341 indicates that 34.1% of the independent variables can explain the variation in the dependent variable, while other factors explain the remaining 65.9%. This finding shows us the competition's complexity across Mid-Range smartphone categories.

According to the results of the Wrap PLS analysis, it can be concluded that the Push, Pull, and Mooring factors significantly influence the consumer decisions in the Mid-Range segment to switch from one smartphone brand to another. The specific details are as follows:

- The Push Factor has the highest significant influence, with a significance value of less than 0.01, and is positively correlated. An increase of 1 point in the Push Factor leads to a 0.35 increase in switching intention.
- The Pull Factor has the lowest influence compared to the other two factors, with a significance value of 0.05. An increase of 1 point in the Pull Factor results in a 0.21 increase in switching intention. It is the lowest factor among all factors. This finding shows that the Pull Factor is not strong enough to initiate the switch without a strong reason.
- The Mooring Factor has a significant influence with a significance value of 0.02 and is positively correlated. An increase of 1 point in the Mooring Factor leads to a 0.25 increase in switching intention. Although the effect of the Mooring factor is not the highest, it still plays an essential role in the market or product competition.

Based on the brand switching question and quantitative analysis above, the following conclusions can be drawn regarding the Mid-Range segment of respondents:

1. The Samsung brand is the most widely used smartphone, and if given the freedom to choose, 43% of respondents in the Mid-Range segment would prefer a smartphone from the Apple brand. Meanwhile, 27% of the respondent would keep their current smartphones. The rest of

the respondent would like to upgrade or increase their smartphone quality and random-access memory.

2. In the Mid-Range segment, consumers are more likely to switch to other brands when the Push, Pull, and Mooring factors increase. The order of influence based on significance values is as follows: Push factor > Mooring factor > Pull factor. Therefore, consumers will prioritize the quality of customer service by the phone manufacturer and warranty period given, followed by Mooring factors such as recommendations from their significant others or referral marketing. Meanwhile, the uniqueness of the product will be the last consideration when switching brands.

3. In this price range, differences between smartphone brands and their specifications become more apparent, and the price range spans from 1.5 million to 5 million rupiahs.
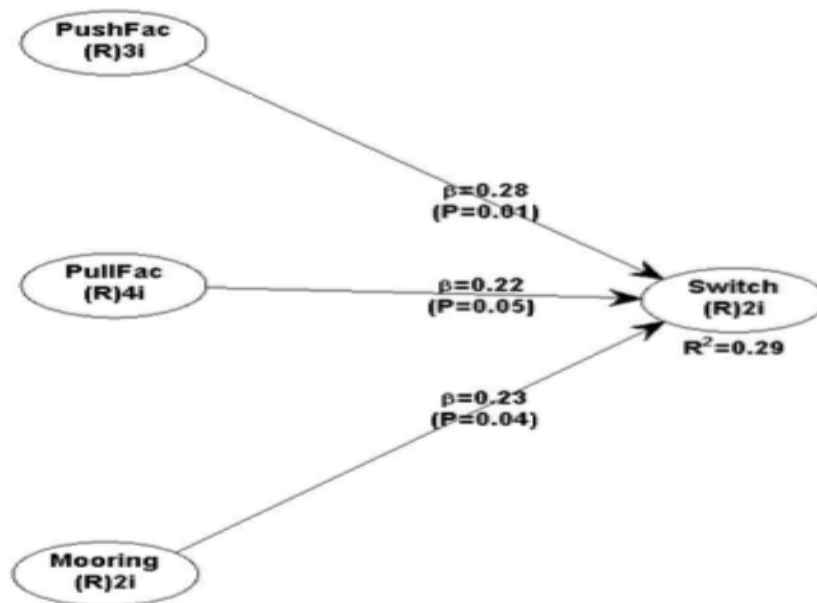
High-End Segment

Figure 3. High End Segment PPM Result

Based on the output of Wrap PLS, an R^2 value of 0.292 indicates that 29.0% of the independent variables can explain the variation in the dependent variable. In comparison, the remaining 71.0% is explained by other factors. It is interesting to note that the R^2 of the High-End product has the lowest percentage. This segment has a unique setting and indicators that common indicators could not capture.

From the Wrap PLS analysis results, it can be concluded that the Push, Pull, and Mooring factors significantly influence the consumer decisions in the High-End segment to switch from one smartphone brand to another. The specific details are as follows:

- The Push Factor has the highest significant influence among the factors, with a significance value of 0.01, and it is positively correlated. An increase of 1 point in the Push Factor leads to a 0.28 increase in switching intention.
- The Pull Factor has the lowest influence compared to the other factors, with a significance value of 0.05. This key finding shows that the Pull Factor is only strong enough to initiate the

switch if it has a strong reason. An increase of 1 point in the Pull Factor results in a 0.22 increase in switching intention.
- The Mooring factor also has a significant influence with a significance value of 0.04 and is positively correlated. An increase of 1 point in the Mooring Factor leads to a 0.23 increase in switching intention.

Based on the brand switching question and quantitative analysis above, the following conclusions can be drawn regarding the High-End segment of respondents:

1. Apple is the most widely used smartphone brand in the High-End segment, and only 60% would not switch from their current smartphones. This finding is another essential result, although the other product also evolves, and it has a big reason for the user to switch if the push factor has been found. The community of product excellence and customer service are among the top priorities to hold these high-end customers.
2. In the High-End segment, consumers are more likely to switch to other brands when the Push, Pull, and Mooring factors increase. The order of influence based on significance values is as follows: Push factor > Mooring factor > Pull factor. Hence, consumers will switch to brands that offer good customer service and reliable product warranty, then receive recommendations from others and finally consider the uniqueness of the product.
3. In the high-end price range, smartphone brands create more explicit brand images and promote more aggressively. Each high-end smartphone has unique design features, a camera, and an operating system.

Qualitative Analysis

The following is a summary analysis of data collected through narrative survey responses from 141 participants to answer the question, "Do you want to switch smartphone brands? Give your reasons!" The researcher analyzed the data using QDAS (Qualitative Data Analysis Software), specifically NVivo 12. This software allows the researchers to manage the qualitative data, examining the word frequency of the most prevalent factors that led respondents to switch smartphone brands and conduct coding or nodes.

Based on the formulated power qualifications, the factors that led respondents to switch smartphone brands are as follows:

1. Comfort: One of the main reasons respondents were reluctant to switch smartphone brands was that they felt comfortable with their current devices. They were familiar with the system and found it easy to use their phones. According to Kotler and Keller (2016), comfort is closely related to consumer loyalty to a particular brand.
2. Features: Consumers desire to switch from one brand to another due to the availability of different features, uniqueness, and superior specifications compared to other smartphone brands. For instance, some respondents wanted a Samsung flip phone because it offered distinct and unique features compared to other models.
3. Durability: Respondents mentioned that they considered buying a brand when it was known for its durability, reliability, and long-lasting performance.
4. User Experience: The user experience was associated with the software's type, appearance, and interface in a smartphone device. One significant difference and uniqueness identified was in Apple's iOS operating system compared to most smartphones that used the Android operating system. Respondents expressed interest in switching to another brand if it offered a new and refreshing experience.

5. Needs: Some respondents indicated that they would switch or try a different smartphone only when their current one was damaged, indicating a genuine need for a new phone. Others switched to smartphones due to job requirements, such as content creators who need a phone with a good camera and the ability to support photo and video editing applications.
6. Price: Respondents mentioned that they could only afford smartphones within their budget and sought devices that offered good value for money in terms of price and specifications.

5. Recommendations

1. Consumers will switch to products with the best quality. However, each segment has its unique conditions according to the requirements of the smartphone features, ease of use, product durability, and price.
2. Push-Pull-Mooring Framework provides valuable inputs and sales strategy recommendations for three segments: Entry-level, Mid-range, and High-end. The consumer service and warranty components are decisive because consumers plan to use their smartphones for a considerable time; there are no obstacles, and the problem can be solved easily and quickly. User experience plays a significant role in consumers' decisions to switch brands.
3. Each product segment requires unique strategies to maintain its loyal customers. For further development to prevent switching intentions, the following suggestions can be considered:

3a. Strengthening service quality and product quality is essential since Push factors significantly impact switching intentions in each segment.

3b. Implementing Mooring factors involves developing user communities to expand influence, generate word-of-mouth marketing, and introduce new product innovations.

3c Enhancing referral marketing and creating awareness during product launches can be achieved by collaborating with influencers to review the products.

3d Regarding Pull factors, companies can differentiate their smartphones from competitors in each segment, providing added value to consumers and making their products stand out.

6. Conclusion

Understanding the factors influencing consumers' decision to switch smartphone brands is crucial for formulating effective marketing strategies and maintaining customer loyalty. The study highlights the significance of the Push-Pull-Mooring Framework and other influential factors in shaping consumers' brand preferences and switching intentions across different smartphone segments. By addressing these factors and adopting the suggested strategies, smartphone companies can create better customer experiences, foster loyalty, and strengthen their market position.

Research that still needs to be done further is an evaluation at the Mid High and End levels. In this research, the PPM variable has less potential to explain switching intention in these two segments. Other variables or additional indicators are needed that are more appropriate and suitable to strengthen the analysis of this phenomenon.

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